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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,880	07/11/2003	Zhiqian Zhang	U 014716-1	3420

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EXAMINER

RAIZEN, DEBORAH A

ART UNIT PAPER NUMBER

2873

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/617,880

Applicant(s)

ZHANG ET AL.

Examiner

Deborah A. Raizen

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4,9-11 and 15-17 is/are rejected.
- 7) ☒ Claim(s) 2,3,5-8,12-14,18 and 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

### ***Oath/Declaration***

2. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because: the same person appears to have signed for all five inventors. Applicants might also consider 37 CFR §1.69, if applicable.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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4. Claims 1, 4, 9-11, are 15-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Kreitzer (6,529,336).

In regard to claim 1, Kreitzer discloses a projection system for use in image display apparatus (Fig. 1, Table 1), comprising a red channel projection lens, a green channel projection lens, and a blue channel projection lens (Fig. 6 and col. 8, lines 1-3), each of the projection lenses including a plurality of optical elements (Fig. 1) having at least one molded plastic element (DOE, col. 5, lines 48-59), wherein at least one element (DOE) of said projection lens has a diffractive structure for correcting chromatic aberrations associated with the spectral band associated with said projection lens (col. 4, lines 60-61).

In regard to claim 4, in the Kreitzer projection, one of the optical elements used in each of the red channel projection lens, the green channel projection lens, and the blue channel projection lens is an optical glass element (U2) with spherical surfaces (Table 1), such that most of the refractive power of said projection lens is provided by the optical glass element (Table 1), and the optical plastic elements all have very little refractive power to make themselves thin enough to be molded with adequate precision (Fig. 1).

In regard to claim 9, Kreitzer discloses a projection system for use in image display apparatus (Fig. 1, Table 1), comprising a red channel projection lens, a green channel projection lens, and a blue channel projection lens (col. 8, lines 1-3), each of the projection lenses including five optical elements (Fig. 1), wherein at least one element (DOE) of said projection lens has a diffractive structure for correcting chromatic aberrations associated with the spectral band associated with said projection lens (col. 4, lines 60-61).

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In regard to claim 10, in the Kreitzer projection, a first element facing to the projected image is a molded plastic element (U1), a second element is a molded plastic element (DOE, although this is the third element from the projected image and comes after the glass element, the claim does not explicitly recite that the elements are numbered in order from the projected image), a third element is a glass element with spherical surfaces (U2, Table 1; again, the claim does not explicitly recite that the elements are numbered in order from the projected image), a fourth element is a molded plastic element (U<sub>CR</sub>), and a fifth element is a molded plastic element (the element with surfaces S11 and S12 in Table 1).

In regard to claim 11, in the Kreitzer projection, a diffractive structure is disposed on one of the molded plastic elements (DOE, col. 5, lines 52-54).

In regard to claim 15, in the Kreitzer projection, said diffractive structure is a true surface kinoform (col. 3, lines 23-24).

In regard to claim 16, Kreitzer discloses a projection system for use in image display apparatus (Fig. 1, Table 1), comprising a red channel projection lens, a green channel projection lens, and a blue channel projection lens (col. 8, lines 1-3), each of the projection lenses including a plurality of optical elements (Fig. 1), wherein at least said one element (DOE) of said projection lens has a diffractive structure (DOS) for correcting chromatic aberrations associated with the spectral band associated with said projection lens (col. 4, lines 60-61), so that the distance from object to image of the image display apparatus can be reduced or the relative aperture of the image display apparatus can be increased without undue loss of image resolution (Figs. 4A-4C and 5A-5C).

In regard to claim 17, in the Kreitzer projection, the projection lens includes five elements (Fig. 1): a first element closest to the projected image comprised of a molded plastic material with aspheric surfaces (U1, Table 1), a second element comprised of a molded plastic material (DOE; as explained for claim 10 above, this claim does not explicitly recite that the elements are in order from the projected image) with aspheric surfaces (planar surfaces can be considered aspheric because they are not spherical), a third element comprised of optical glass with spherical surfaces (U2, Table 1; the order is not explicitly recited), a fourth element comprised of a molded plastic material with aspheric surfaces (U<sub>CR</sub>), and a fifth element comprised of a molded plastic material with aspheric surfaces (S11-S12 in Table 1), wherein a different diffractive structure is disposed on one of the molded plastic elements (DOS on DOE, col. 5, lines 52-54; because the claim does not explicitly recite that the diffractive structure is different for each projection lens, the disclosed diffractive structure meets this limitation).

#### ***Allowable Subject Matter***

5. Claims 2, 3, 5-8, 12-14, 18 and 19 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art taken either singularly or in combination fails to anticipate or fairly suggest the limitations of claims 2, 3, 5-8, 12-14, 18 and 19, in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper. More detailed reasons will be provided in a subsequent Office Action.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah A. Raizen, Ph.D., J.D., whose telephone number is (571) 272-2336. The examiner can normally be reached on Monday-Friday, from 10:00 a.m. to 3:00 p.m. Eastern Standard Time (a part-time schedule).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps can be reached at (571) 272-2328. The USPTO central official fax number is (703) 872-9306 (please note that this number is different from the previous two numbers provided until the summer of 2003).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or at 703-305-3028 or at 703-308-6845 between the hours of 6 a.m. and midnight Monday through Friday EST, or by e-mail at: [ebc@uspto.gov](mailto:ebc@uspto.gov). Additional information is available on the Patent EBC Web site at: <http://www.uspto.gov/ebc/index.html>.

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Scott J. Sugarman  
Primary Examiner